

# EUROPEAN PATENT OFFICE

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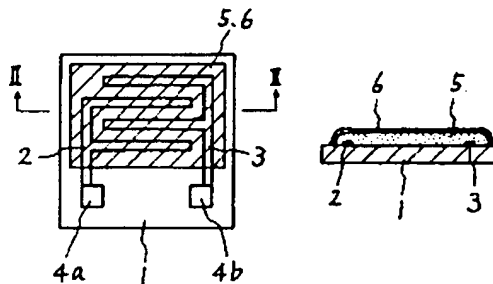
APPLICATION DATE : 21-01-85  
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TITLE : LIQUID SENSOR



**ABSTRACT :** PURPOSE: To eliminate the need for having a power source device on the outside or in the outside and to obtain a liquid sensor which is small in size, inexpensive and is suitable for a throw-away application by constituting a primary battery of plural electrodes consisting of different materials and electrolyte in a detecting part.

**CONSTITUTION:** The comb-shaped electrodes 2, 3 which constitute a positive electrode and negative electrode are formed of the different materials on a substrate 1. The electrodes 2, 3 are formed of, for example, carbon for the positive electrode 2 and Ni for the negative electrode 3. A water absorbent 5 consisting of, for example, PVA powder and starch is formed like a film onto the substrate 1 contg. the electrodes 2, 3. The electrolyte such as  $\text{NH}_4\text{Cl}$  and depolarizer such as  $\text{MnO}_2$  are mixed with the absorbent 5. The primary battery is thereby constituted of the electrodes 2, 3 and the detecting part consisting of the absorbent 5 which is a mixture composed of the electrolyte and depolarizer. The primary battery functions when water or urine is adsorbed to the absorbent 5. Then the electrolytic  $\text{NH}_4\text{Cl}$  induces an ionization reaction and the current flows between the electrodes 2 and 3. The detection circuit is driven by the electromotive force thereof.

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